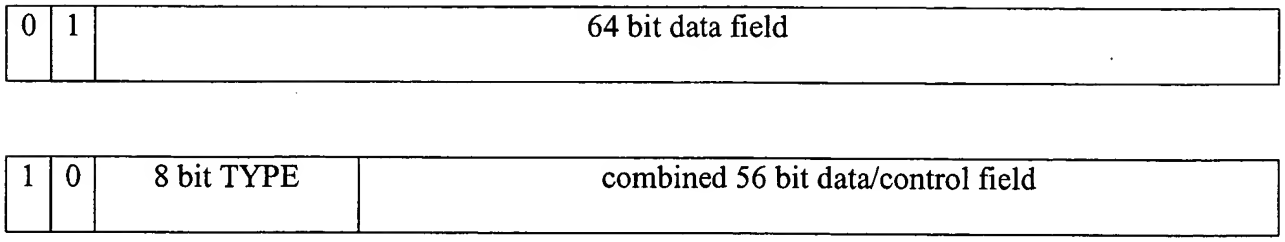
FIG. 1



PRIOR ART

FIG. 2

EVEN STATES	State Number	ODD STATES
← 128 bits →		← 128 bits →
ss [64] ss [60]	1	s [64] ss [61]
[4] ss [64] ss [56]	2	[3] ss [64] ss [57]
[8] ss [64] ss [52]	3	[7] ss [64] ss [53]
[12] ss [64] ss [48]	4	[11] ss [64] ss [49]
[16] ss [64] ss [44]	5	[15] ss [64] ss [45]
[20] ss [64] ss [40]	6	[19] ss [64] ss [41]
[24] ss [64] ss [36]	7	[23] ss [64] ss [37]
[28] ss [64] ss [32]	8	[27] ss [64] ss [33]
[32] ss [64] ss [28]	9	[31] ss [64] ss [29]
[36] ss [64] ss [24]	10	[35] ss [64] ss [25]
[40] ss [64] ss [20]	11	[39] ss [64] ss [21]
[44] ss [64] ss [16]	12	[43] ss [64] ss [17]
[48] ss [64] ss [12]	13	[47] ss [64] ss [13]
[52] ss [64] ss [8]	14	[51] ss [64] ss [9]
[56] ss [64] ss [4]	15	[55] ss [64] ss [5]
[60] ss [64] ss	16	[59] ss [64] ss [1]
[64] ss [62]	17	[63] ss [63]
[2] ss [64] ss [58]	18	[1] ss [64] ss [59]
[6] ss [64] ss [54]	19	[5] ss [64] ss [55]
[10] ss [64] ss [50]	20	[9] ss [64] ss [51]
[14] ss [64] ss [46]	21	[13] ss [64] ss [47]
[18] ss [64] ss [42]	22	[17] ss [64] ss [43]
[22] ss [64] ss [38]	23	[21] ss [64] ss [39]
[26] ss [64] ss [34]	24	[25] ss [64] ss [35]
[30] ss [64] ss [30]	25	[29] ss [64] ss [31]
[34] ss [64] ss [26]	26	[33] ss [64] ss [27]
[38] ss [64] ss [22]	27	[37] ss [64] ss [23]
[42] ss [64] ss [18]	28	[41] ss [64] ss [19]
[46] ss [64] ss [14]	29	[45] ss [64] ss [15]
[50] ss [64] ss [10]	30	[49] ss [64] ss [11]
[54] ss [64] ss [6]	31	[53] ss [64] ss [7]
[58] ss [64] ss [2]	32	[57] ss [64] ss [3]
[62] ss [64]	33	[61] ss [64] s

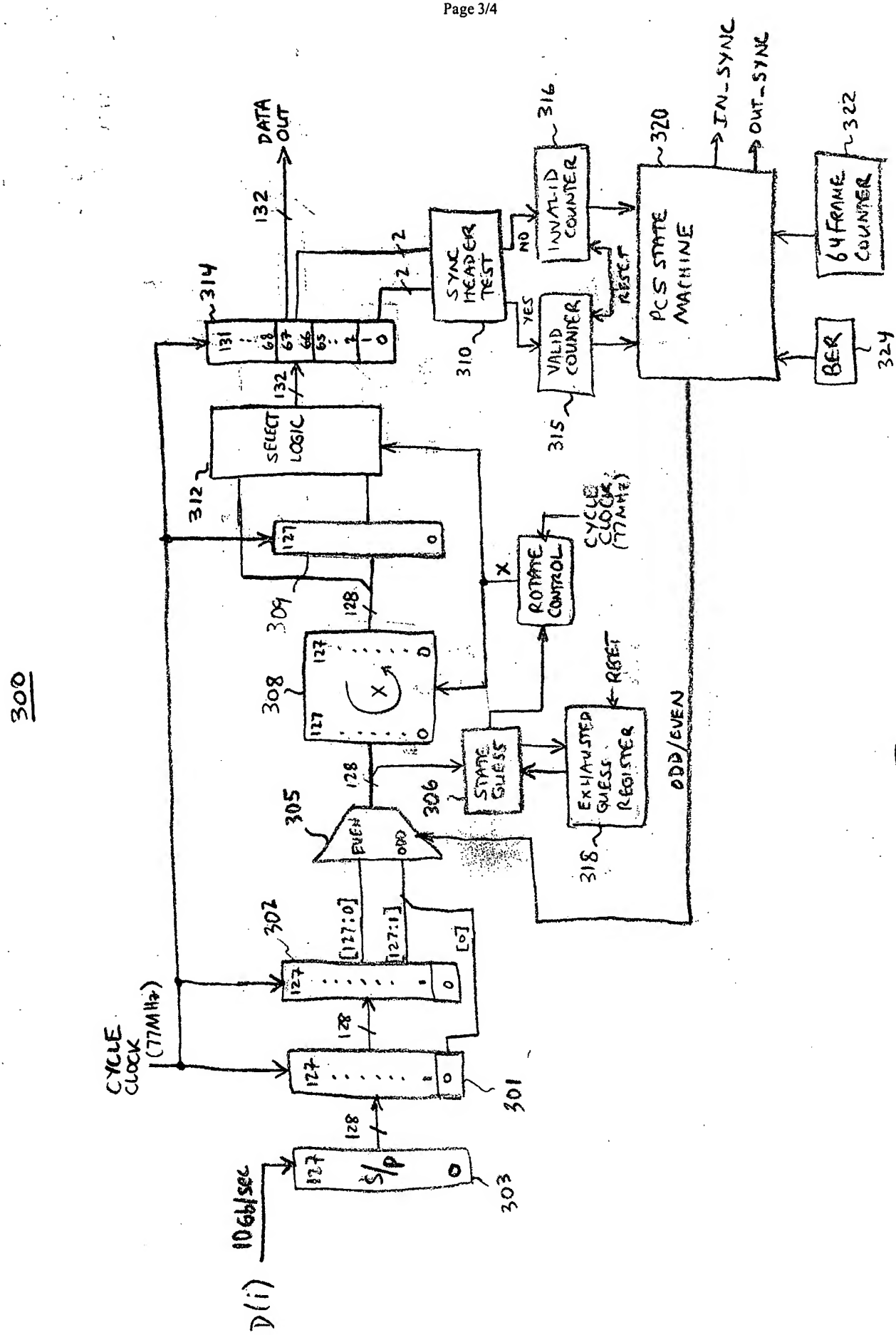

300
D(i)
10Gb/sec
S/P
303
CYCLE CLOCK (77MHz)
301
302
[127:0]
[127:1]
[0]
305
EVEN
ODD
306
STATE GUESS
EXHAUSTED GUESS REGISTER
RESET
318
ODD/EVEN
308
309
312
SELECT LOGIC
132
DATA OUT
314
131
68
67
66
65
2
1
0
SYNC HEADER TEST
310
YES
NO
INVALID COUNTER
316
VALID COUNTER
315
PCS STATE MACHINE
320
IN_SYNC
OUT_SYNC
64 FRAME COUNTER
322
BER
324
ROTATE CONTROL
CYCLE CLOCK (77MHz)

FIG. 3

State No.	State	Rotate amt	Reg 314	Sent/Not Sent
1	ss64ss60	0	Idle Cycle	Not Sent
2	4ss64ss56	4	ss64ss60,4	yes
3	8ss64ss52	8	ss64ss56,8	yes
4	12ss64ss48	12	ss64ss52,12	yes
5	16ss64ss44	16	ss64ss48,16	yes
6	20ss64ss40	20	ss64ss44,20	yes
7	24ss64ss36	24	ss64ss40,24	yes
8	28ss64ss32	28	ss64ss36,28	yes
9	32ss64ss28	32	ss64ss32,32	yes
10	36ss64ss24	36	ss64ss28,36	yes
11	40ss64ss20	40	ss64ss24,40	yes
12	44ss64ss16	44	ss64ss20,44	yes
13	48ss64ss12	48	ss64ss16,48	yes
14	52ss64ss8	52	ss64ss12,52	yes
15	56ss64ss4	56	ss64ss8,56	yes
16	60ss64ss	60	ss64ss4,60	yes
17	64ss62	64	ss64ss64	yes
18	2ss64ss58	68	ss62,2ss64	yes
19	6ss64ss54	72	ss58,6ss64	yes
20	10ss64ss50	76	ss54,10ss64	yes
21	14ss64ss46	80	ss50,14ss64	yes
22	18ss64ss42	84	ss46,18ss64	yes
23	22ss64ss38	88	ss42,22ss64	yes
24	26ss64ss34	92	ss38,26ss64	yes
25	30ss64ss30	96	ss34,30ss64	yes
26	34ss64ss26	100	ss30,34ss64	yes
27	38ss64ss22	104	ss26,38ss64	yes
28	42ss64ss18	108	ss22,42ss64	yes
29	46ss64ss14	112	ss18,46ss64	yes
30	50ss64ss10	116	ss14,50ss64	yes
31	54ss64ss6	120	ss10,54ss64	yes
32	58ss64ss2	124	ss6,58ss64	yes
33	62ss64	128	ss2,62ss64	yes

FIG. 4